

printing an agent with the printing system of claim 16 whereby the actuator urges the capillary along its longitudinal axis toward the substrate to contact the substrate, thereby decelerating the capillary to move the agent through the bore, out the tip and onto the substrate.

28. (Amended) A method for contact printing an agent on a substrate comprising the step of printing an agent with the printing system of claim 18 whereby the actuator urges the capillary along its longitudinal axis toward the substrate to contact the substrate, thereby decelerating the capillary to move the agent through the bore, out the tip and onto the substrate.

29. (Amended) A method for contact printing an agent on a substrate comprising the step of printing an agent with the printing system of claim 19 whereby the actuator urges the capillary along its longitudinal axis toward the substrate to contact the substrate, thereby decelerating the capillary to move the agent through the bore, out the tip and onto the substrate.

REMARKS

The claims are amended to incorporate stylistic changes made in copending 09/150,502. Claim 1 is amended to recite the term "actuator" operates to reversibly urge the capillary toward the substrate, as described (see, e.g. Figs. 2 and 21). As such, the actuator provides a specific function of the previously recited positioner element (see, p.6, line 4). Claim 1 and the method claims are also amended to emphasize that the recited embodiment is a contact printing system (see, e.g. p.6, line 4). In addition, redundant language is deleted from claims 3-6 and 17-19; and terminal punctuation is provided in claim 15. These amendments introduce no new matter.

The claimed invention readily distinguishes the printers described by Feygin et al. (US Pat Nos. 6,116,297; 5,957,167) and Martinsky (US Pat No. 6,101,946), all kindly mentioned by Examiner Ludlow in copending 09/150,502.

Feygin (both cited patents) describes a non-contact, spring-driven capillary dispenser for relatively large (0.5-5 microliter) volumes. As shown in Figs. 6 and 7 (elements 618 and 720, respectively) of the '167 patent, Feygin uses a rigid, non-moving plate (col.4, lines 55-56) to secure spring actuators coupled to pipette tips. When unlatched, the mechanically compressed springs abruptly expand, accelerating the pipette tip until halted by a fixed stopping member (element 626 in Fig.6), whereby the liquid is expelled from the pipette tip toward the substrate.

Feygin's printers are structurally and functionally different from ours. Our printers require an actuator operative to reversibly urge the capillary along its longitudinal axis to the substrate; and a motion resistor operative to incompletely resist motion of the capillary along its


longitudinal axis, biasing said motion toward the substrate. Our motion resistor (e.g. one or more springs) "facilitate contact printing on relatively planar or flat surfaces, especially wherein the system comprises a plurality of printing devices which print in concert, wherein the resistor(s) permit simultaneous contact of the printing devices on the surface." Specification, p.7, lines 11-13; see also, our Fig.2. Feygin provides no equivalent structures or functions. Functionally analogous to our actuator is Feygin's latch (element 622 in Fig.6) which unleashes the spring-loaded pipette tip. Functionally analogous to our motion resistor is Feygin's rigid, fixed stopping collar (element 626 in Fig.6). However, these elements do not provide or suggest the structures nor functions expressly required by our claims.

The relevance of US Pat. No. 6,101,946 is less apparent to us, as this reference does not appear to describe anything akin to a motion resistor operative to incompletely resist motion of the capillary along its longitudinal axis, biasing said motion toward the substrate. In fact, the patent expressly disclaims the use of any springs which are said to promote wear on the printing tips and reduce durability (col.2, lines 12-13; col.2, lines 32-33); instead, the patent advocates use of a rectangular collar (col.6, lines 39-41; Figs. 2B, 2C, 2D).

The Examiner is invited to call the undersigned if she would like to amend the claims to clarify the foregoing or seeks further clarification of the claim language.

Applicants hereby petition for any necessary extension of time pursuant to 37 CFR 1.136(a). The Commissioner is hereby authorized to charge any fees or credit any overcharges relating to this communication to our Deposit Account No. 19-0750 (order no. IN-0012).

Respectfully submitted,
SCIENCE & TECHNOLOGY LAW GROUP



Richard Aron Osman, Ph.D., #36,627
Tel(650)343-4341; Fax(650) 343-4342